

## Conductive Plastic Motion Transducer Elements (KIT), up to 1000 mm



The LMF is a reduced bulk, precision motion transducer, designed for easy integration into equipment.

### FEATURES

- Measurement range 25 mm to 1000 mm
  - High accuracy  $\pm 1\%$  down to  $\pm 0.025\%$
  - Good repeatability
  - Simple and flexible mounting
  - Essentially infinite resolution
- Made in two separate parts:
- the sensing element
  - the wiper
- Special designs available on request
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

### QUICK REFERENCE DATA

Sensor type	LINEAR, conductive plastic
Output type	Solder pads
Market appliance	Industrial
Dimensions	L x 15 mm x 1.6 mm (with L = TET + 18 mm)

### ELECTRICAL SPECIFICATIONS

Theoretical electrical angle (TEA = E)	From 25 mm to 1000 mm in increments of 25 mm	
Independent linearity (over TET)	$\leq \pm 1\%$ ; $\leq \pm 0.1\%$	
On request	$\leq \pm 0.05\%$ for $E \geq 100$ mm	$\leq \pm 0.025\%$ for $E \geq 200$ mm
Actual electrical travel (AET)	AET = TET + 2 mm	
Ohmic value	From 400 $\Omega$ /cm to 2 k $\Omega$ /cm	
Resistance tolerance at 20 °C	$\pm 20\%$	
Repeatability	$\leq 0.01\%$	
Maximum power rating	0.05 W/cm at 40 °C	0 W at 85 °C
Wiper current	Recommended: a few $\mu$ A - 1 mA max. (continuous)	
Load resistance	Minimum $10^3 \times R_T$	
Insulation resistance	$\geq 1000$ M $\Omega$ , 500 V <sub>DC</sub>	
Dielectric strength	$\geq 750$ V <sub>RMS</sub> , 50 Hz	

### MECHANICAL SPECIFICATIONS

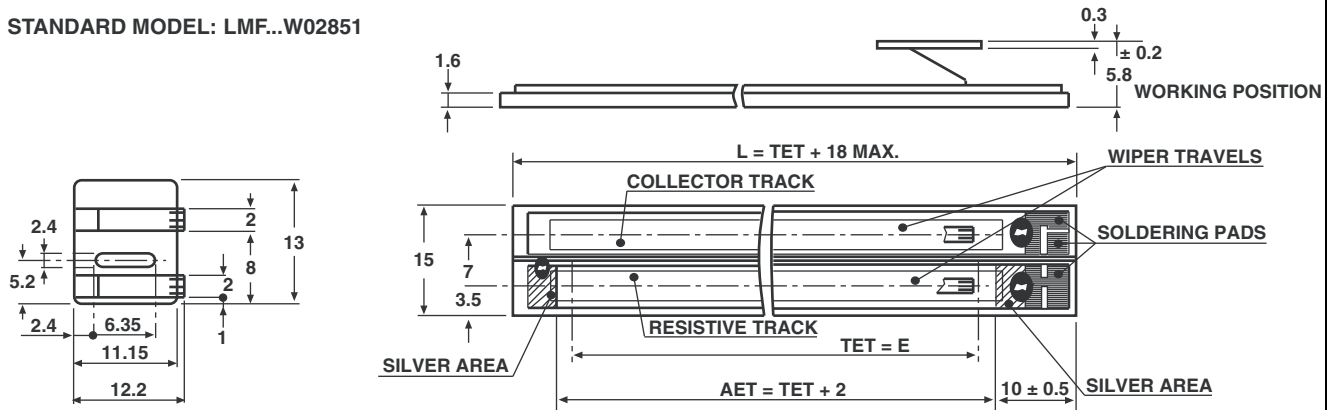
Support of element	Fiberglass epoxy
On request	Plastic moulding
Wiper (non insulated)	Precious metal multifinger
On request	Insulated
Terminals	Soldering pads
On request	By wires
Fixing	Glued: Double face Isotac
On request	Screwed: Holes in the support

### PERFORMANCE

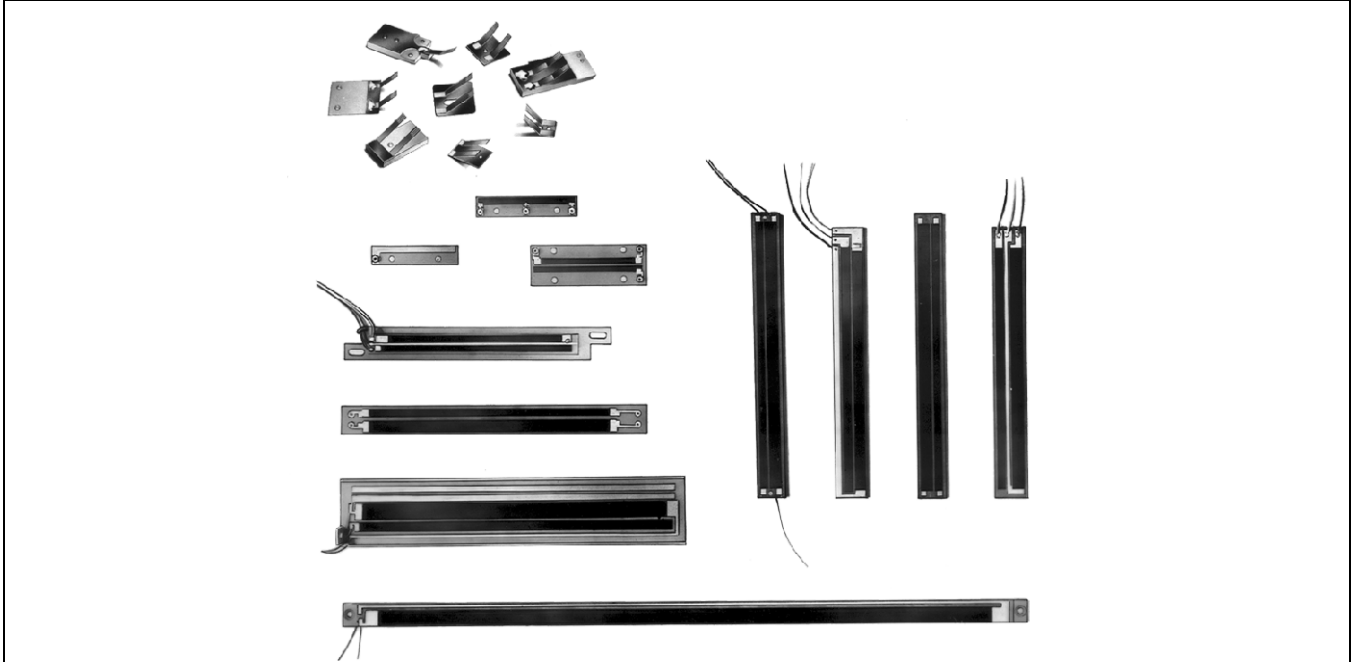
Operating life	25 million cycles typical/1 Hz/T° = 20 °C $\pm$ 5 °C/80 % TET
Temperature range	- 55 °C to + 125 °C

**DIMENSIONS** in millimeters, general tolerance  $\pm 0.2$  mm

STANDARD MODEL: LMF...W02851



**EXAMPLES OF SPECIAL DESIGNS**



**ORDERING INFORMATION/DESCRIPTION**

KIT SERIES	LM MODEL	F CONDUCTOR	3 THEORETICAL ELECTRICAL TRAVEL	D LINEARITY	103 OHMIC VALUE	W... MODIFICATIONS	e. LEAD FINISH
		F: Plastic S: Serigraphy	Times 25 mm	A: $\pm 1\%$ D: $\pm 0.1\%$ E: $\pm 0.05\%$ F: $\pm 0.025\%$	First 2 digits are significant numbers 3rd digit indicates number of zeros	Special feature code number	

**SAP PART NUMBERING GUIDELINES**

LMF MODEL	3 TET	D LINEARITY	103 OHMIC VALUE	W... SPECIAL FEATURES
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